Report on the Watershed Mitigation Subcommittee

How is the Watershed Mitigation Subcommittee helping TPEAC improve the environmental permitting process?

TPEAC was created to achieve "transportation permit reform." It has defined ***permit reform*** as having two critical components:

- Reducing the time and/or cost of environmental permits for transportation projects
- Increasing the environmental value of mitigation investments made to offset the environmental impacts of transportation projects

The Watershed Mitigation Subcommittee is comprised of federal, tribal, state, and local agency personnel as well as representatives of associations and not-for-profit organizations with expertise in environmental mitigation, watershed processes and planning, natural resource management, transportation planning, and regulatory review. The Watershed Mitigation Subcommittee is one of several subcommittees to help TPEAC accomplish its reform efforts.

Fundamentally, permit reform involves changing how people make decisions. An environmental permit is not a single decision but rather the result of a long process that involves many decisions – the last of which is the actual permit decision. To accomplish transportation permit reform, each agency must make relatively minor changes in how it makes decisions during the project development process.

The Subcommittee has been tasked with creating a ***watershed approach*** to environmental mitigation. The watershed approach created by the subcommittee has two types of products. One product is a set of several new ***tools*** that provide better and timelier information. The other product is a ***structured process*** that allows agencies to make better use of information (see "*What is a Watershed Approach?*" sidebar for the principal sources of natural resource information). These two products work together to provide agencies with better information and a better way to make individual and collective decisions.

Fundamentally, permit reform involves changing how people make decisions.

An important principle of the subcommittee's work is that significant change is possible with only minor changes within each agency.

How are natural resources managed in this state?

The management of natural resource is complex because there are many laws and policies governing the use of natural resources and many entities implementing those laws and policies.

Two important tools for making natural resource management decisions are plans and permits.

In general, local governments have been given responsibility and authority to develop natural resource plans. For example, cities and counties have primary responsibility for land use planning, shoreline planning, watershed planning, and often, water supply planning.

Local, state, and federal agencies all have responsibilities and authorities to permit the use of natural resources based on specific federal, state, and local regulations.

The timing is right for using a watershed approach for making decisions. Local watershed plans have been completed or are nearing completion around the state. Also, regional salmon recovery plans are nearing completion in most of the state. Use of subcommittee products, in combination with local plans, will provide a powerful opportunity for changing how environmental permit decisions are made.

What did the legislation direct the Watershed Mitigation Subcommittee to accomplish?

Broadly, the TPEAC legislation directed the subcommittee to develop a "watershed approach" to environmental mitigation. The legislation directed that the subcommittee undertake specific activities, including:

- Develop technical tools that use a watershed approach to expedite mitigation
- Develop multi-agency watershed-based mitigation policy guidance to expedite environmental permitting
- Complete a test of the policy and technical tools
- Develop a schedule (see the "Road Map" in this report) to integrate watershed tools, policies, and procedures

What is a Watershed Approach?

A watershed approach seeks to understand natural resource impacts, assess the condition of environmental processes, and evaluate restoration options in a landscape context.

Many local governments around the state are completing watershed plans in collaboration with citizens, non-profit groups, and with federal, state, and tribal agencies. Many of these plans comprehensively address water quality, habitat, and water quantity issues in an attempt to improve the condition of the overall watershed.

Using a watershed approach to permitting ensures that decisions on mitigation opportunities are evaluated on their potential to provide measurable environmental benefits at landscape scales.

What technical tools has the Subcommittee developed?

Watershed Characterization Methodology

The subcommittee developed a methodology to characterize the ecological health of the watershed and to use that information to identify areas that would provide the greatest environmental benefit for impacts caused by transportation projects.

The watershed characterization method outlines a scientific framework and set of procedures for identifying, screening and prioritizing a suite of options for mitigating environmental impacts on large projects with complex environmental issues (see exhibit 1).

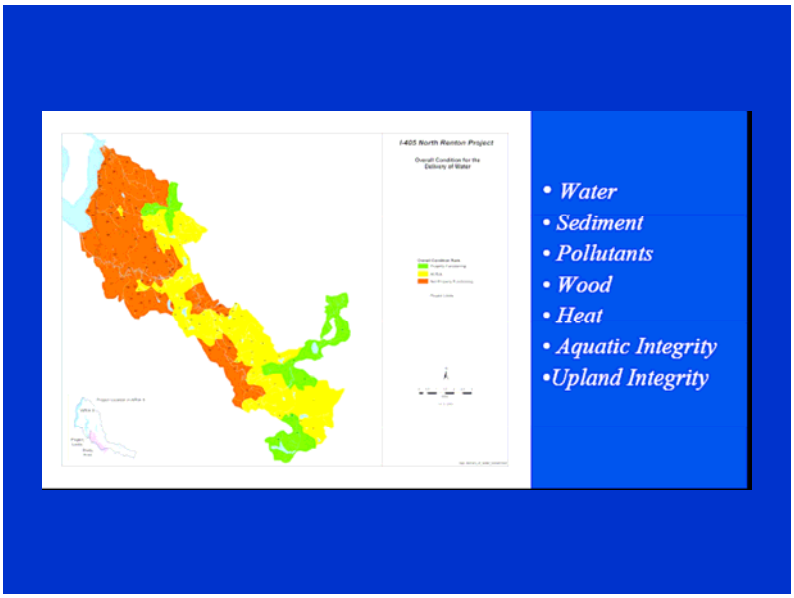
The method includes:

- Characterizing the condition of the watershed to support, maintain, and improve restoration and mitigation efforts.
- Assessing potential environmental impacts of a project.

- Optimizing avoidance and minimization opportunities.
- Identifying, assessing, and prioritizing potential mitigation sites.

Exhibit 1

Watershed Characterization



The watershed characterization technical team has developed a **landscape-scale** method for evaluating watersheds in association with a transportation corridor and for identifying and prioritizing potential mitigation opportunities that have the greatest potential to mitigate transportation impacts and maximize environmental benefits. The team has completed four projects, located in Snohomish, King, and Pierce counties to develop, test, and refine the methodology. On the I-405/SR-520 project, the team used the watershed characterization tool to identify and evaluate 4,888 potential wetland, riparian, and floodplain mitigation sites.

Multiple mitigation sites provide opportunities to maximize environmental benefits and reduce project costs (see exhibit 2). For example, treating stormwater flow control through the restoration of degraded wetlands provides a new mechanism for meeting mitigation needs and increased environmental benefits. A wetland restored upstream of a highway project can provide the same stormwater flow control benefits as a detention pond next to the project or a stormwater vault built underneath the highway. Meanwhile, it has many other benefits: wildlife habitat, groundwater recharge, water quality

Key Fact:

The SR-167 study encompassed a 350 square mile area, provided environmental information for a minimum of three corridor studies (SR-167, SR-164, and SR-169), and was completed in five months.

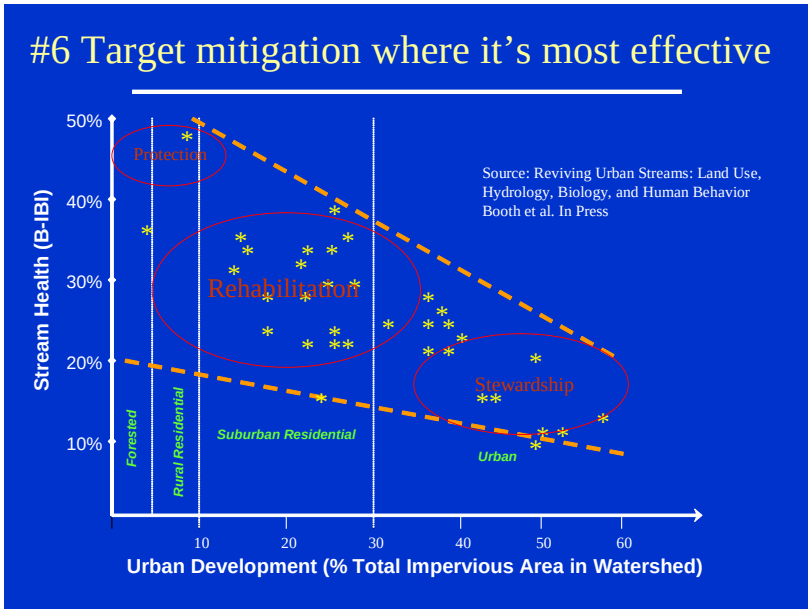
Key Fact:

King County is using the results of the watershed characterization performed for the SR-167 project for land use planning for other projects.

improvement, etc. At the same time, the wetland option may be far less expensive than the engineered option.

Exhibit 2

Benefits of Watershed Characterization



The Watershed-Based Mitigation webpage has more information at:

http://www.wsdot.wa.gov/environment/watershed/watershed_mitigation.htm

Mitigation Screening Tool

A recent Washington State Department of Transportation (WSDOT) study found that the cost to mitigate the environmental impacts of transportation projects vary greatly – from four to 34 percent of total project costs. Historically, there has been no way to identify which projects are at risk of high mitigation costs.

The subcommittee oversaw development of a screening tool designed to identify transportation projects that are located near landscape features that have a high likelihood of affecting WSDOT's ability to cost-effectively mitigate for environmental impacts (see exhibit 3).

Types of landscape features that increase risk of high mitigation costs include wetlands, floodplains, unstable slopes, areas of high-intensity land use, and high land values.

Finding the balance

Project delays have occurred in the past when initial planning and design decisions were made without benefit of sufficient environmental information.

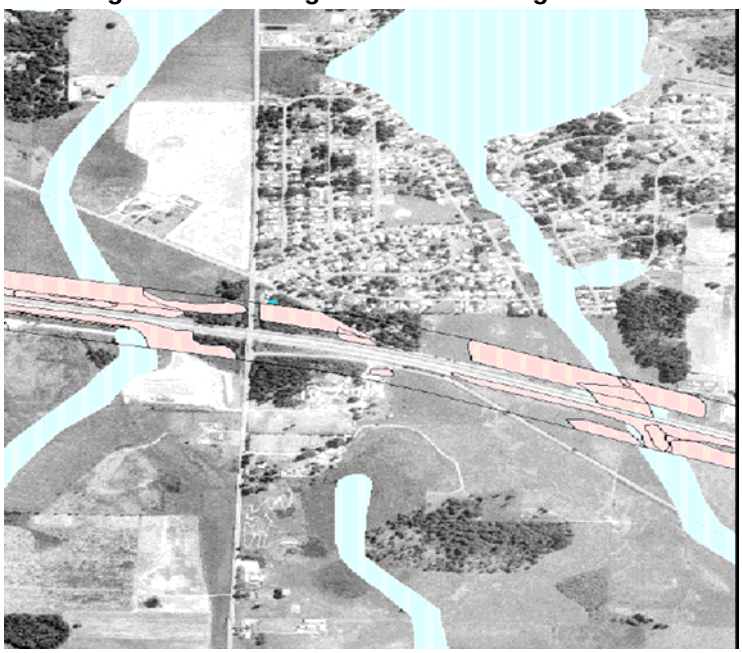
Involving regulatory agencies and affected tribes earlier in the planning and design process can produce better decisions, but will require a cultural change in how WSDOT and the regulatory agencies permit project impacts. Avoiding environmental impacts through better planning and design can significantly reduce the time and costs of the permitting process as well as achieve better environmental results.

Planning and designing a highway project is incredibly complex. Transportation project managers must manage for multiple objectives, including public safety, mobility, cost, and environmental protection.

The permitting process must allow agencies to pursue their individual missions while, at the same time, remembering that the "public" expects multiple benefits from highway projects, such as safety, congestion improvements, and resource protection.

Exhibit 3

The mitigation screening tool identifies high risk areas



The screening tool can use existing map products such as those made by and for local agencies during land use planning under the Growth Management Act, or those created during watershed planning. By overlaying these features on the map of the transportation project area, an analysis may be conducted to assess the risk of facing high mitigation costs.

The watershed mitigation screening tool has three products:

- A list of risk factors that can adversely impact the ability of a project to mitigate its impacts economically and without inhibiting project delivery.
- A mitigation risk index that uses the key factors and mapping analysis to identify large projects with complex environmental impacts that are candidates for watershed characterization.
- A mathematical model to estimate project stormwater treatment costs at the planning stage. This allows the agency to plan for the use of wetlands for stormwater treatment, both to reduce costs, and improve overall environmental benefits.

Use of the screening tool will enable WSDOT to provide project engineers with an “early warning system” of problems associated with the efficient and effective mitigation of

Key Fact:

In the SR-12 field test, more than 140 mitigation projects were identified through interviews with Federal, state and local agencies, tribes, and interest groups.

environmental impacts. The use of the screening tool will enable WSDOT to use watershed characterization where mitigation needs are greatest. Mitigation sites chosen using the watershed characterization approach are likely to have greater, far-reaching, and longer-lasting environmental benefits than sites chosen based on proximity to the impacts.

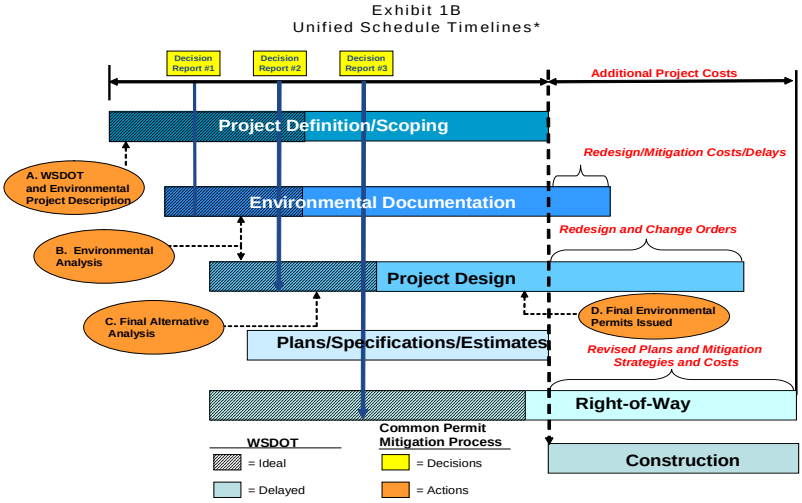
What policy tools has the subcommittee developed?

Integrated Mitigation Guidance

The subcommittee developed an ***Integrated Mitigation Guidance*** document to promote the use of a watershed approach when making permit and other environmental decisions. The subcommittee intended this guidance document is intended to integrate the mitigation policies of the Washington Department of Fish and Wildlife, the Department of Ecology, and the Department of Transportation. This guidance is being tested on three transportation projects in Walla Walla, Whatcom, and Lewis Counties.

Exhibit 4

The Integrated Mitigation Guidance: A process to improve how, when, and why decisions are made



* The framework for the timelines is based on WSDOT typical project management approach with a joint WSDOT/Resource Agency Common Permit Mitigation Process linked to decisions and project management.

The ***Integrated Mitigation Guidance*** (see exhibit 4) is a framework to allow WSDOT and resource agencies to work more efficiently to process permits and provide more effective mitigation. The framework has six components which can be

Integrated Managing of Information, Decisions, and People

Permit reform is about how people use information to make more effective and efficient decisions. The Unified Schedule, Decision Report, and Team Approach are used together to provide a structured process to allow agency staff to individually (within agencies) and collectively (across agencies) manage information to make more effective and efficient decisions.

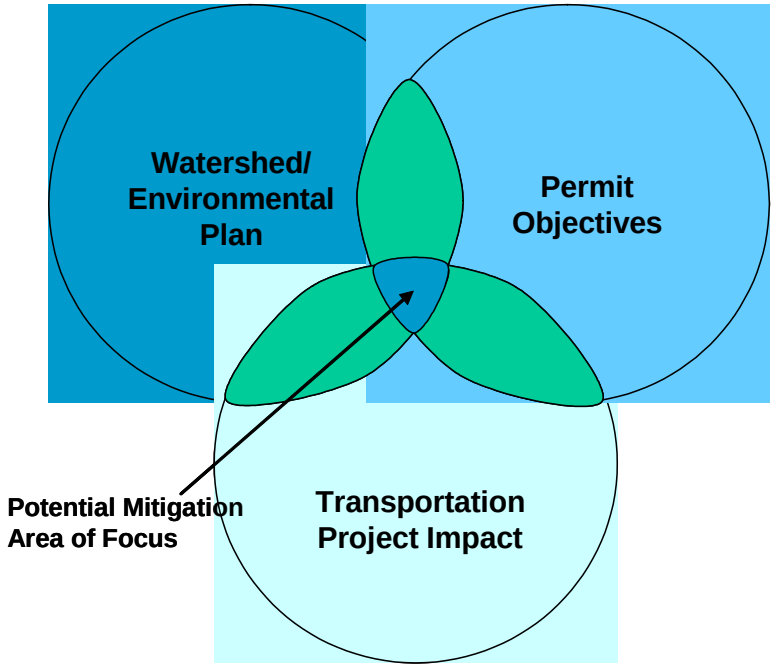
Watershed Characterization, the Common Permit Process, and the Performance-based Approach provide new and multiple options (information) to help agencies make better decisions about how to address the environmental impacts of transportation projects in a manner that balances what the public "wants" from its transportation system.

used together or separately to meet the needs of a transportation project:

- Unified Schedule: A timeline of key activities and decisions for both WSDOT and the resource agencies (see exhibit 4). The schedule improves communication and expectations, reduces surprises, and helps keep projects on time and on budget.
- Decision Report: A structured approach to document how and why decisions are made. The decision report helps to avoid delays when new staff persons are brought into a project. The report also serves as a vehicle for the interagency team (see "Team Approach" below) to provide input into the environmental implications of proposed planning and design decisions. The Unified Schedule and the Decision Report collectively form a blueprint for how, why, and when decisions are made by the team.
- Team Approach: The interagency team structure allows agencies to work together efficiently to meet individual agencies responsibilities in a manner that allows for collective responsibilities to be met.

Exhibit 5

Identifying mitigation that meets multiple objectives



- **<u>Watershed Characterization</u>**: A structured approach to identify multiple mitigation options. A formal approach to

characterization is profiled in this report. This less rigorous approach uses existing local watershed plans and related documents to identify suitable mitigation options. The approach is being used for the field tests of the mitigation policy in Walla Walla, Whatcom, and Lewis Counties.

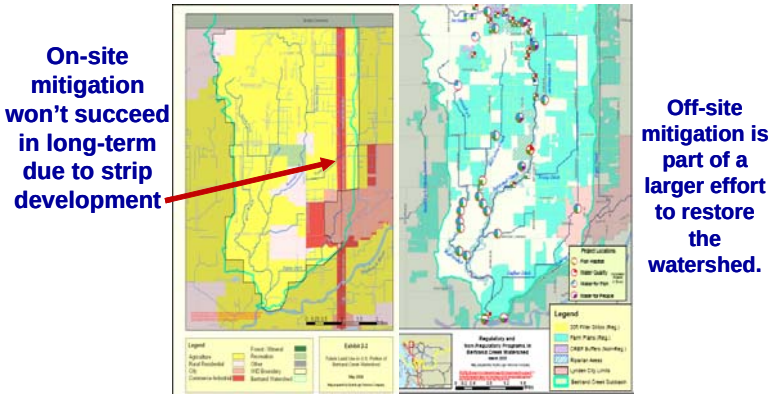
- **Common Permit Process**: An approach to making permit decisions that includes an evaluation of both on-site and off-site mitigation opportunities to identify options that provide the greatest value in terms of cost effectiveness and environmental benefit.
- **Performance-Based Approach**: A risk management tool that uses an adaptive management approach to identify and appropriately address risk factors that may affect the overall performance of a selected mitigation option. The approach can provide additional options for managing risk and may also lower overall mitigation costs.

What procedural improvements has the subcommittee demonstrated?

Combining the use of the technical and policy tools is creating new outcomes – that is, they are beginning to show how permitting decisions can be improved. This section describes results of using the policy tools and technical tools together.

Exhibit 6

Watershed Plans help make better decisions about mitigation



On the SR-539 project, for example, a decision-making process is being developed using watershed plan information, watershed characterization tools, and the policy tools (exhibit 6). Existing information regarding potential restoration projects has been collected through document reviews and interviews, resulting in more than 250 potential projects.

A first level screening tool was developed and used to make a short list of 15-20 projects to undergo field screening. Final documentation is being prepared to demonstrate the decision process and provide final mitigation options for WSDOT to consider.

Exhibit 7

Watershed Plans and environmental information can be used to avoid project impacts

Field tests provide an important "laboratory" for determining how well the products work in "real life" situations.

The Watershed Characterization Tool was successfully tested in King County, Pierce County, and Snohomish County. The tool identified hundreds of potential mitigation sites.

The Integrated Mitigation Guidance is currently being tested in Walla Walla County, Whatcom County, and Lewis County.

On the US-12 project, an information management tool has been developed using the Unified Schedule and Decision Report in combination with existing WSDOT procedures (see exhibit 7). The field test of the policy tool on US-12 project has conceptually demonstrated how WSDOT can use environmental documents efficiently and effectively by using an information management process where the information collected for one environmental decision can be used - and systematically built on – for other environmental decisions (see sidebar for additional detail). Another outcome of the IMG procedure is that it demonstrates how watershed plans and environmental information can be used to help decision-makers avoid environmental impacts. Further, including affected tribes* early in the process facilitates the avoidance of both natural and cultural resources important to the tribes.

* Throughout this report, the term "tribes" is used to refer to Indian tribes and Indian nations.

Another outcome of the IMG procedure is that it demonstrates how watershed plans and environmental information can be used to help decision-makers avoid environmental impacts. Further, including affected tribes early in the process facilitates the avoidance of both natural and cultural resources important to the tribes.

How has the Subcommittee tested the technical and policy tools?

Field Tests

The watershed characterization methodology profiled in on pages two to four has been tested on four urban transportation projects: SR-522, two projects on I-405, and SR-167. The methodology has successfully identified hundreds of potential mitigation options to mitigate wetland, stormwater, and riparian impacts for these projects.

Field tests are also being conducted for the Integrated Mitigation Guidance in three non-urban areas of the state: US-12 in Walla Walla County, SR-539 in Whatcom County, and I-5 in Lewis County. In these field tests, watershed plans and other valuable information are being used as the basis to identify suitable mitigation for transportation project impacts.

Ecology Stormwater Policy

As a result of the formal watershed characterization work (profiled in technical tools), and collaborative policy work between WSDOT and the Department of Ecology, a new stormwater policy has been developed to allow WSDOT to restore or enhance natural wetlands to offset stormwater impacts of new highway surfaces. Policies such as these meet TPEAC objectives for permit reform.

What is the schedule for integration of the mitigation tools?

The final task given to the subcommittee was to develop a schedule to integrate its technical, policy, and procedural tools. The subcommittee developed a **Road Map** – a detailed set of directions to meet the subcommittee's overall charge to institutionalize a watershed-based approach to environmental mitigation. The purpose of the Road Map is to take the watershed approach beyond the field testing stage so that it can be used on a daily basis around the state to improve both the timing and quality of permit decisions.

Proposed Action Items to Implement the Road Map

Work of the Watershed Mitigation Subcommittee and its member partners has a three-facetted legacy for natural resource mitigation and watershed planning. This work:

a) Provides WSDOT with new technical and procedural tools for enhanced environmental documentation and mitigation;

b) Supports local watershed planning, natural resource management, and salmon recovery efforts by providing new (and access to other existing) landscape concepts, data, and technical tools; and

c) Facilitates use of technical skills and knowledge of subcommittee members for continual improvement of environmental mitigation.

Facet A:

Provides WSDOT with new technical and procedural tools for enhanced environmental documentation and mitigation.

The rest of this report presents details on the Action Items that compose this Road Map. For each Action Item, we provide information about the "lessons learned" by the Subcommittee that lead to this Action Item being identified, the steps that we propose to address the Action Item, and the challenges that might stand in the way of implementing the Action Item.

Facet A: Action items that provide WSDOT with new tools.

Action Item #1—Automate project screening tool and use to evaluate each transportation project's need for watershed-based alternative mitigation.

Lessons Learned

A project screening tool can efficiently compare and evaluate each transportation project's need for watershed characterization and resulting alternative, offsite mitigation options.

Steps

- Convert existing project screening tool methods into an automated GIS-based tool (GIS Workbench) to permit the rapid evaluation of transportation projects (anticipated date of completion is June 2006).
- Use project-screening tool to evaluate Transportation Partnership Account (TPA) projects to determine the need for watershed characterization work and use of alternative, offsite mitigation options (such as banking, advance mitigation, or stormwater flow control).
- Encourage use of the Project Screening Tool by the Strategic Planning Program to evaluate projects and assist in project scoping for environmental mitigation.
- Communicate results to WSDOT Alternative Mitigation Program and WSDOT regional offices and encourage use

of alternative, offsite mitigation to maximize environmental and economic benefits.

- Target future watershed characterization work to transportation projects having the greatest need for alternative, offsite mitigation and stormwater flow control.
- Explore opportunities to help cities and counties adapt the screening tool for broader mitigation applications, such as local transportation projects and public infrastructure projects.

Challenges

- Overcome lack of understanding internally about the benefits of using the screening tool.
- Automation of screening tool into the WSDOT GIS Workbench continues to be delayed.
- Promoting the use of the screening tool outside WSDOT even though this action item only indirectly supports the mission of the agency.

Action Item #2—Use existing watershed characterization results to identify a conceptual network of advanced mitigation sites.

Lessons Learned

Watershed characterization and the project screening tool provide information that can identify and prioritize a network mitigation bank sites and opportunities.

Tribes are especially interested in participating in the prioritization process for their specific tribal watersheds.

There is a need for state and local agencies to improve relationships with the tribes to develop partnerships that ensure early planning process coordination.

Steps

Challenges

- Funding and staffing impediments – funding and staff time are limited prior to state and local highway projects receiving funding. Currently no highway funding is available until specific project budgets are allocated.
- Communication protocols are not always in place with the tribes to coordinate watershed planning and partnerships.

Action Item #3—Identify ways to integrate watershed-based mitigation into the WSDOT culture.

Lessons Learned

In order to be an effective tool, the watershed based mitigation tools and concepts must be integrated into the WSDOT culture.

Steps

- Develop written guidance on using the watershed approach for WSDOT projects.
- Incorporate watershed-based methods and concepts into the Department's Environmental Procedures Manual (EPM) where such watershed-based information will be most useful for project managers and consultants.
- Facilitate use of the project screening tool by the Strategic Planning Office and regional offices.
- Provide periodic updates to the Statewide Environmental Managers meetings, Bio-Roundtable, Mitigation Technical Group, and regional offices.

Challenges

- Funding and staffing impediments – funding and staff time are limited prior to state and local highway projects receiving funding. Currently no highway funding is available until specific project budgets are allocated.
- Perception of added risk – WSDOT engineers and regulatory agencies may be reluctant to use this concept because of perception of extra permitting time and uncertainty.
- How to support and encourage use of watershed-based mitigation approaches at local agency and tribal levels.

Action Item #4—Work cooperatively with a WSDOT project office, Alternative Mitigation Program, and the Department of Ecology to pilot and evaluate the use of wetland restoration as an alternative stormwater flow control Best Management Practice.

Lessons Learned

The Department of Ecology (Ecology) is supportive of the concept of using wetland restoration as an alternative stormwater flow control method. WSDOT has worked closely with technical staff at Ecology over the past three years to

develop modeling tools to quantify a wetland restoration site's flow control potential.

Steps

- Use project screening tool and other means to identify projects needing substantial stormwater flow control.
- Work with project engineers and Ecology technical staff to identify a pilot project to test and evaluate.
- Develop monitoring plan and monitor effectiveness.
- After adequate monitoring, work with Ecology to establish a new wetland restoration Best Management Practice for stormwater flow control.

Challenges

- Perception of added risk – WSDOT engineers and regulatory agencies may be reluctant to use this concept because of perception of extra permitting time and uncertainty.

Action Item #5—Work cooperatively with representatives of Shared Strategy for Puget Sound and equivalent regional entities across the state to facilitate WSDOT's use of locally developed natural resource restoration site lists for identifying candidate mitigation sites.

Lessons Learned

Locally developed watershed planning efforts regularly develop a list of potential restoration sites to target recovery efforts. State agencies, tribes and local jurisdictions have expressed interest in matching transportation mitigation needs with locally identified restoration opportunities. Often, information compiled by local jurisdictions on the potential restoration sites does not match the type of site information that WSDOT wetland biologists need to evaluate each site's potential to function as a mitigation site.

Steps

- Select a WRIA in which to conduct a pilot project.
- Gather information on TPA project and mitigation needs within the selected Water Resource Inventory Area (WRIA).

- Work with WSDOT wetland biologists to identify key site criteria and attributes used to evaluate a site's mitigation potential based on the WSDOT project mitigation needs for the WRIA.
- Partner with Washington associations of cities and counties to communicate WSDOT mitigation needs, regulatory requirements, and constraints to local jurisdictions.
- Compile information on a sample of locally developed natural resource restoration site datasets and compare for consistency with WRIA data.
- Work cooperatively with representatives from WSDOT, WRIA groups, and Shared Strategy for Puget Sound to develop and implement a scope of work on this action item.

Challenges

- Needs to be a WSDOT priority to be successful.
- Funding and staffing impediments – funding and staff time are needed to identify and evaluate opportunities to use TPA or Advance Environmental Mitigation Revolving Account (AEMRA) funding for advance mitigation. Simultaneous multiple bank projects could overload existing regulatory agency staff.
- Recognize need for key recovery site data to facilitate screening for mitigation site potential.

Action Item #6—Pilot a training effort as appropriate to facilitate the integration of watershed characterization and other tools created by the Watershed Mitigation Subcommittee to benefit both WSDOT and local governments.

Lessons Learned

Watershed characterization can result in an extensive list of potential wetland, riparian, and floodplain restoration sites and information on landscape condition of ecological and biological processes. Some local watershed planning groups could benefit from having this information. The local watershed planning group could receive training, aerial photos, and GIS technical support from WSDOT to compile this information. WSDOT would benefit by receiving potential wetland restoration site datasets and landscape condition information that can be used in the identification of mitigation sites. Some local jurisdictions could benefit from watershed

characterization training and materials and WSDOT could benefit from their use of this tool in watershed-based mitigation efforts.

Steps

- WSDOT Watershed Program staff contact local and tribal watershed planning groups and gauge interest in participating in a pilot effort to evaluate benefits to both the local watershed planning group and WSDOT.
- Work cooperatively with Washington associations of cities and counties to pilot concept in one watershed and evaluate effectiveness.
- Make training and materials available to interested local jurisdictions and tribes.

Challenges

- Needs to be a WSDOT priority to be successful.
- Funding and staffing impediments – funding and staff time are needed to conduct watershed characterization training.

Action Item # 7—Work with WSDOT Regional Office and Alternative Mitigation Program to select a mitigation site using the recently completed SR 167 watershed characterization to demonstrate that the watershed process can effectively produce successful mitigation projects.

Lessons Learned

WSDOT's Watershed Program Staff has spent several years developing a watershed characterization methodology and has completed watershed characterizations for several projects. However, to date, no sites have been selected and used for mitigation for a WSDOT project. The SR 167 project serves as an excellent model to demonstrate the use of the watershed process.

Steps

- Work with Alternative Mitigation Program to identify minimum practical sizes and other criteria for mitigation banks.
- Query potential wetland and floodplain restoration site databases from SR 167 watershed characterization to identify sites that meet the criteria.

- Compile additional data on the sites including land ownership information, presence of infrastructure development, adjacent land available for buffers, land cover, and restrictive land use designations.
- Comparatively rank candidate sites for their potential to: a) maximize environmental benefits at a watershed scale; and b) replace lost functions.
- Incorporate potential of candidate sites to maximize environmental benefits and replace functions lost into an overall priority rank.
- Produce a report with usable sites for SR 167 mitigation.
- Work closely with Alternative Mitigation Program and WSDOT regional offices to use this information to effectively mitigate SR 167 project impacts.

Challenges

- Funding and staffing impediments – this process is well underway for SR 167 but funding and staff time will be needed to complete future projects of this scale.

Facet B: Action items that support local efforts.

Facet B:

Supports local watershed planning, natural resource management, and salmon recovery efforts by providing new (and access to other existing) landscape concepts, data, and technical tools.

Action Item #8—Support development of local infrastructure for the creation and maintenance of restoration and recovery databases.

Lessons Learned

The current local infrastructure and technical expertise to develop, populate, and maintain such a dataset is not consistent.

Steps

- The Department of Fish and Wildlife (WDFW) will continue to work with the Interagency Committee for Outdoor Recreation, its salmon recovery and nearshore restoration partners, and others (such as Natural Heritage Program and the Biodiversity Council) to develop a robust restoration and enhancement project database. Such a database could serve as a template or a starting place for additional, comprehensive natural resource restoration databases.
- Staff from WSDOT, Ecology, WDFW, Washington Department of Community, Trade, and Economic

Development, tribes, and Washington associations of cities and counties are exploring opportunities and grant funding for a pilot project. In cooperation with a county, the project would identify land use planning options, prioritize potential restoration sites and also be used for site specific mitigation done in a watershed process context. This pilot project would use watershed characterization developed by WSDOT, combined with Ecology's Landscape Planning Tool and WDFW's biodiversity information.

- WSDOT will coordinate with local watershed planning organizations, tribes, local agencies, and other potential contributors to ensure that restoration databases meet WSDOT needs for mitigation opportunities.

Challenges

- Synchronizing local jurisdiction and state agency priorities and workload.
- Funding required to develop and maintain the mitigation site database.

Action Item #9—Support and actively participate in interagency efforts that seek to match mitigation needs with watershed recovery and other priorities.

Lessons Learned

Funding sources to implement salmon recovery and watershed planning are limited. Linking mitigation needs with restoration projects that target salmon recovery and other watershed priorities provides a mechanism that may assist in funding watershed plan implementation.

Steps

- WDFW, Ecology, the Washington associations of cities and counties, and other partners (such as WSDOT) will continue to work cooperatively to apply new and existing permitting and mitigation concepts and opportunities as part of a coordinated approach to watershed-based decision-making. Such efforts help to implement some of the watershed-based mitigation concepts described here.

Challenges

- Funding for technical staff at tribal, local and state and federal agency agencies is required to perform this linking process.

- Funding required at Office of Regulatory Assistance to administer and oversee this effort.

Action Item #10—Use watershed characterization methods and results to support monitoring of landscape-forming processes such as that coordinated though the Governor's Forum on Monitoring Salmon Recovery and Watershed Health.

Lessons Learned

Washington's statewide monitoring strategy recognizes that landscape-forming processes, such as the delivery of water, sediment, heat, organic materials, nutrients and other dissolved materials, create and maintain habitat characteristics that are important to salmon and ecosystem functions.

Steps

Coordinate with the Governor's Forum on Monitoring Salmon Recovery and Watershed Health to determine how watershed characterization results and the restoration and recovery databases developed through Action Item #8 can best support the statewide monitoring effort. Watershed characterization results can support this statewide monitoring effort.

Challenges

- Governor's Forum on Monitoring and Salmon Recovery needs to remain a priority and be funded.
- Recognize that monitoring salmon recovery and watershed health cannot be done effectively at the site scale – must also be done at a landscape level.

Action Item #11—Include tribal priorities, restoration opportunities and objectives, and other information into local, state, or regional restoration datasets.

Lessons Learned

Indian nations and tribes have legal, cultural, spiritual, and economic reasons for managing natural resources and restoring degraded natural systems. Each watershed is home to one or more tribes that wish to make their knowledge of the watershed and their plans prominent and included early in any watershed-based decision making process. The position of the tribes is that individual tribal member participation in watershed planning groups, regional fisheries enhancement groups, etc. does not authorize judgments on their behalf. Therefore, when

a specific project is being first considered in a particular watershed, affected tribes should be involved. Whatever happens upstream directly affects tribal health, culture, and resources.

Tribal natural resource programs are often a repository of substantial information on watersheds. The mitigation of unavoidable impacts by transportation projects can benefit from timely and accurately targeted communication and coordination with tribal cultural and natural resource managers. Further, the Northwest Indian Fisheries Commission is working with Puget Sound tribes to identify natural resource restoration opportunities that have potential for use as mitigation sites. Similar tribal interests exist in other areas of the state.

There is a need for state and local agencies to improve relationships with the tribes to develop partnerships that ensure early planning process coordination.

Steps

- WSDOT tribal liaisons work with individual tribes to develop clear consistent guidance for communicating and coordinating with each individual tribe.
- Communicate with tribes about WSDOT mitigation needs and regulatory requirements.
- Coordinate with the tribes to determine their mitigation needs and restoration priorities. Find out what type of information and data that the tribes have and in what form.
- Support development and maintenance of consolidated restoration project lists by watershed, using all available data sources.
- Maintain tribal liaisons established by the TPEAC process to continue facilitating early coordination with tribes on environmental mitigation and cultural resource issues, and to help compensate for limited tribal administrative capacity.
- Establish protocols for regularly scheduled meetings with WSDOT, local agencies, and tribes to discuss long range transportation plans, current projects, and mitigation needs and priorities.

- Continue the efforts of the Department of Fish and Wildlife to partner with tribal governments in the development of a nearshore and salmon recovery database.

Challenges

- Need permanent funding for tribal liaisons.
- Tribes and state and local agencies all need clearly identified position-specific single points of contact.

Action Item #12—The Department of Ecology, WSDOT, WDFW, and tribes will work to integrate watershed characterization technical tools and information into existing watershed planning efforts.

Lessons Learned

The interest and ability of a local watershed planning organization (such as a local jurisdiction, lead entity, or watershed planning unit) to use watershed characterization tools and results are dependent on need, timing, and resources. However, existing watershed characterization methods can identify a comprehensive list of potential natural resource restoration sites and provide valuable information on the condition of landscape-forming processes that can help target restoration and recovery efforts.

Steps

- Encourage Ecology and WDFW to assist local watershed planning organizations in incorporating new watershed characterization technical tools into their planning process.
- Assist watershed planning organizations in assessing data gaps and acquiring data needed to evaluate individual restoration sites in both a site and a landscape context.
- Use locally-developed plans and resulting restoration databases to create a list of mitigation options.

Challenges

- Need funding to encourage this collaboration.
- This action may be perceived as only indirectly supporting the WSDOT mission.

Action Item #13—Include the early identification of environmental mitigation needs in land use and transportation planning.

Lessons Learned

Growth Management Act comprehensive plans are an effective means of planning for future growth and development. In the past, this planning tool has generally not been used to identify and zone cornerstone pieces of degraded natural resources that can be used to mitigate impacts of that planned growth and development. Natural resource mitigation targets degraded or destroyed wetlands, riparian areas, and floodplains. Many of the very best restoration and mitigation sites are also prime candidates for development because of the degraded or destroyed condition of the natural resources on-site. Planning is prudent for both future development and the mitigation of natural resources that development will impact. Without both, existing watershed recovery efforts are at risk as many of the very best restoration or mitigations sites may be lost.

Steps

- Work cooperatively with representatives of the Washington State Department of Community, Trade, and Economic Development, the Washington associations of cities and counties to determine the interest in and need for this type of information. Target local jurisdictions in urbanizing areas where this concept is most applicable.
- Consult with the Washington State Department of Community, Trade, and Economic Development on the concept of planning for future natural resource mitigation needs in a manner consistent and compatible with planning for future growth and development.
- Use completed watershed characterization data to demonstrate how key natural resource restoration sites can be identified and prioritized for future mitigation needs.
- The Washington associations of cities and counties, the WDFW, and others will continue to work cooperatively to apply new and existing permitting and mitigation concepts and opportunities as part of a coordinated approach to watershed-based decision-making. A primary component of this coordinated approach is to integrate information from local watershed planning efforts into local land use plans.

Challenges

- Technical information on potential mitigation sites needs to be transferred to local jurisdictions.
- Funding needed at local level for the identification, mapping, and inclusion of potential restoration sites that are currently degraded.
- Funding also needed for Washington associations of cities and counties, Department of Community Development, WDFW, Tribes, and other entities to become involved at Office of Regulatory Assistance.

Action Item #14—Facilitate and expedite the development and permitting of new innovative mitigation approaches through the use of watershed characterization results.

Lessons Learned

New mitigation approaches, such as wetland mitigation banks, conservation banks, and advance mitigation, are recognized nationally as innovative strategies for mitigating unavoidable natural resource impacts. However, the permitting process for these new innovative approaches requires significantly more time than conventional ones. Bank sites selected, in part, with watershed characterization concepts and results can help to ensure the environmental benefits and long-term viability of sites. Used as a risk management tool, watershed characterization can and should be used to expedite the banking process.

Steps

- Coordinate with appropriate regulatory agencies regarding use of the watershed characterization methodology to select advance mitigation sites.
- Include information on the watershed characterization completed for the SR 167 project.

Challenges

- Needs to be a WSDOT priority to be successful.
- Perception of added risk – WSDOT engineers and regulatory agencies may be reluctant to use this concept because of perception of extra permitting time and uncertainty.
- Funding and staff time is needed to perform such coordination.

- A high level of interagency cooperation is needed.

Facet C: Action item that facilitates use of technical skills and knowledge of subcommittee members.

Facet C:

Facilitates use of technical skills and knowledge of subcommittee members for continual improvement of environmental mitigation.

Action Item #15—Use the expertise of Watershed Mitigation Subcommittee members when developing watershed-based strategies and plans and evaluating relevant mitigation options.

Lessons Learned

Active Watershed Mitigation Subcommittee members have greater understanding of watershed concepts and methods than most other technical staff within state agencies. This understanding can and should be used to strengthen and support future watershed-based activities.

Staff from WSDOT, Ecology, WDFW, tribes, Washington associations of cities and counties, and the Washington State Department of Community, Trade, and Economic Development are exploring opportunities for a pilot project with a county in which watershed characterization developed by WSDOT is combined with Ecology Landscape Planning tool and with WDFW's biodiversity information. This project would identify land use planning options and prioritize potential restoration sites. The project could also be used to identify site-specific mitigation done in a watershed process context. There is exploration of grant monies to fund such an effort.

Steps

- Review US 12, Interstate 5, and SR 539 Pilot Projects to evaluate the success of the methods used to develop a mitigation project list from existing, locally based information. Use results to adjust the process as needed.
- Explore integration of the WSDOT watershed characterization model with that of Ecology and with WDFW's Local Habitat Assessment criteria.
- Subcommittee co-chairs will contact subcommittee members to update them on the status of implementing action items and to explore opportunities for further work, including occasional meetings as needed.

Challenges

- Employers need to enable the use of Watershed Subcommittee members in watershed planning efforts to carry on the legacy of the Subcommittee.
- Staff time and funding needed to perform coordination and pilot projects.